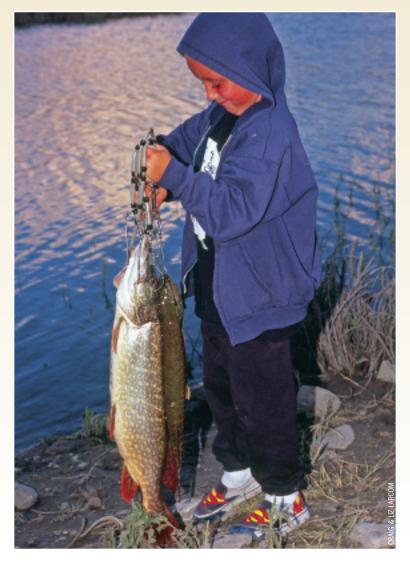
MONTANA SPORT FISH CONSUMPTION GUIDELINES



What you need to know about mercury and PCBs in Montana's sport fish









What are "sport fish consumption guidelines?"

The Montana Sport Fish Consumption Guidelines provide recommendations on the amount and type of sport fish to eat, how to prepare your catch to minimize health risks, and what special precautions should be taken by high-risk individuals. The guidelines also include a detailed chart that lists all waters in the state that have been tested for the presence of certain environmental contaminants, and provide fish consumption recommendations specific to these waters. Although the guidelines are not regulatory standards, by using them you'll help ensure that the fish you catch can safely be a part of your diet.

The Food and Consumer Safety Section of the Montana Department of Public Health and Human Services (DPHHS) provides additional information on Montana sport-caught or purchased fish. This information is available on-line at the public DPHHS website at: www.dphhs.mt.gov and search for "fish consumption guidelines," or by calling (406) 444-9777.

The guidelines are generally designed to protect pregnant women, women of childbearing age, children, and anglers who regularly consume fish caught in Montana waters in larger quantities over long periods of time.

What are the health benefits of eating fish?

When properly prepared, fish provide a diet high in protein and low in sat-

urated fats. Many researchers suggest that eating a half-pound of fish each week is helpful in preventing heart disease.

Almost any kind of fish can have real health benefits if eaten as an alternative to a high-fat protein in your diet. You can get the health benefits of fish, and reduce un-



wanted contaminants, by following these consumption guidelines and cleaning and cooking your catch in ways that reduce fatty tissue.

What are the health risks of eating contaminated fish?

PCBs and methyl mercury build up in body tissue over time. It may take months or years of regularly eating contaminated fish to accumulate levels that could become a health concern.

Methyl mercury Our body can safely metabolize small amounts of consumed methyl mercury, but larger amounts may cause damage to the nervous system. It most severely affects developing fetuses in pregnant women. It is recommended that women of childbearing age avoid those species of fish and seafood known to contain high concentrations of mercury. For women and young children, the FDA currently recommends against eating any shark, swordfish, king mackerel, and tilefish, and also limiting consumption of albacore tuna to one meal per week.

PCBs Dietary exposure to PCBs has been linked to infant development problems in children whose mothers were exposed to PCBs before becoming pregnant. The consumption advice for PCBs is intended to protect children from developmental problems and damage to their immune system. In addition, PCBs are known to cause cancer in laboratory animals and may cause cancer in humans.

What contaminants are found in Montana fish?

Mercury is a widespread and naturally occurring element that concentrates in many soils and rocks. Mercury may also enter Montana waters via household refuse, batteries, mining and industrial wastes, and from burning fossil fuels. Once in a lake, mercury is converted to methyl mercury by bacteria and other processes. Fish absorb methyl mercury into their tissues from their food and from water. There is no method of cooking or cleaning fish that will reduce the amount of mercury in a meal.

Polychlorinated Biphenyls (PCBs) are a group of man-made chemicals once used as lubricants, coolants, and in ink and paint additives. The manufacture of PCBs in the United States was banned in 1977, yet trace levels of PCBs remain in the environment. Everyone is exposed to some PCBs, as they are found everywhere. Fish absorb PCBs from water, sediments, and food. PCBs concentrate in the fat of fish, and other animals. Cleaning and cooking a fish to remove fat will lower the amount of PCBs in a fish meal.

Other metals, pesticides, and organic compounds are present in Montana's fish, but it has not been established that there is a health concern at this time.

For more information, call the Montana Food & Consumer Safety Section at (406) 444-5306 for a free copy of A Guide to Healthy Eating of the Fish You Catch.

Reduce your health risk

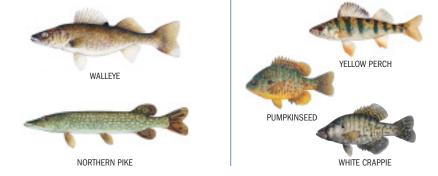
Keep smaller fish for eating. Contamination increases as fish get larger and older. Predatory fish, such as walleye and lake trout, often accumulate more contaminants because they eat other fish. Smaller panfish such as bluegill, crappies, brook trout, and yellow perch usually have low levels of contamination.

Larger and older fish accumulate more contaminants:



Smaller fish typically have lower levels of contaminants:





Clean and cook your fish properly. Certain contaminants build up in a fish's fat deposits and just underneath the skin.

To reduce contaminant levels:

- · Fillet the fish.
- · Remove the skin.
- · Cut away the fatty tissue (back, side, and belly fat).
- · Bake or broil the trimmed fish on a rack, or grill it, so the remaining fat drips away.
- Meal advice for individuals at increased risk. Children age six and younger, nursing mothers, and women who are pregnant, or might become pregnant, are at greatest risk of adverse health effects, and should be more conservative in their fish-eating habits. The guidelines below apply to fish species in waterbodies not listed on the consumption charts:

AVOID	One meal per month	One meal per week	Two meals per week
Walleye over 22"	Walleye less than 22"		
	Lake trout over 21"	Lake trout 15-21"	Lake trout less than 15"
	Northern pike over 20"	Pike 15-20"	Pike less than 15"
	Bass over 16"	Bass less than 16"	
		Perch	
		Lake whitefish over 16"	Whitefish less than 16"
		Brown trout over 15"	Browns less than 15"
		Rainbow trout over 12"	Rainbows less than 12"
			Cutthroat trout, kokanee brook trout, sunfish, arctic grayling

Montana Fish, Wildlife & Parks has sampled and analyzed fish for contaminants from many of Montana's lakes and streams. Use this chart as a guideline to determine the recommended number of meals of fish you can eat per month, based on fish size and measured concentrations of contaminants found in the fish. In the chart, ALL-all person, M-adult men, and women not of childbearing age, and WC-women of childbearing age and children.

Montana Department of Public Health and Human Services meal guidelines are based on an 8-ounce serving (weight before cooking) for a 150-pound man, and a 6-ounce serving for women of childbearing age and children age six and younger.

How to use this chart 1. Determine the species and length of your fish.

- 2. Refer to the Sport Fish Consumption Chart to find the lake or river in which the fish was caught. Lakes and rivers are listed in alphabetical order. ■ An open blue icon [ﷺ] indicates the fish are safe to eat in unlimited quantities.
 - A blue number [5] indicates the number of meals per month one can safely consume.
 - A black icon [♣] indicates the fish are not recommended for consumption.

risk" guidelines.										
_ocation	Species	Person	6-10	10-14	Size (1	ength i	n inches	:) 26_30	30+	Contaminar
ckley Lake South of Hobson	Rainbow trout	ALL	0-10	<>	4-10	10-22	22-20	20-30	301	Contamina
Ider Gulch Vigilante Pond at Virginia City	Rainbow trout	M WC	<∺ 5	7						Hg Hg
Ider Gulch Above Virginia City	Rainbow trout	ALL	₩	<>×						11g
air Reservoir East of White Sulphur Springs	Rainbow trout	M WC	<∺ 7	6						Hg
asin Creek Near Basin	Rainbow trout	ALL	<∺							
ig Spring Creek Above Hwy 191 bridge	Rainbow trout Brown trout	ALL	444	444	444	444	444			PCBs PCBs
ig Spring Creek	Rainbow trout	ALL	1	1	1	1	1			PCBs
Below Hwy 191 bridge ighorn Reservoir	Brown trout Walleye	ALL M	1 <≃	1	5	2	2	2		PCBs Hg
mum Decembin	Walleye	WC	7	5	2	1	1	***		Hg
ynum Reservoir	walleye	M WC	10 4	10	2	1				Hg Hg
abinet Gorge Reservoir	Brown trout	M WC		<≃ 9	10	1				Hg Hg
	Yellow perch	M	11							Hg
	Northern pike	WC M	4				7		3	Hg Hg
		wc					3		1	Hg
	Smallmouth bass	M WC		1						Hg Hg
	Walleye	М			4					Hg
anyon Ferry Reservoir	Yellow perch	WC M	<##	← →	1					Hg
,		WC	10	5						Hg
	Burbot	M WC	11	8	<i>←</i> ∺ 6					Hg
	Walleye	М	<₩	<₩	<₩	5	6	6	3	Hg
	Rainbow trout	M WC	10	7 ⇔	4 <≃	10	2	2	1	Hg Hg
actional Late	Diode and the	WC	12	10	10	4				Hg
astlerock Lake Colstrip	Black crappie	M WC	8							Hg
	Largemouth bass	M		<∺						Пч
	Walleye	M WC	<#	5 ⇔	<>∺	5				Hg Hg
	Northern pike	WC M	11	8	5	2	9	8		Hg Hø
	попинени ріке	WC	11	7	5	3	3	3		Hg Hg
Clark Canyon Reservoir	Rainbow trout	M WC	₩ ₩		<∺ 9	<≃∺ 7				Hg
	Burbot	ALL	4	4	-	←	<≈	⇔		rig
	Brown trout	M WC				12 4				Hg Hg
Clark Fork River	Mountain whitefish	M		⇔	<##	_				Hg
Below Warm Springs Ponds	Brown trout	MC M		<	10					Hg Hg
		wc		<>						Hg
Clark Fork River Upstream Flint Creek	Mountain whitefish	M WC		12	8					Hg Hg
	Brown trout	М		12						Hg
lark Fork River	Mountain whitefish	MC M		4	7					Hg Hg
Downstream Flint Creek		wc			2					Hg
ear Lake South of Superior	Brook trout	M WC	12							Hg
liff Lake Jewel Basin	Cutthroat trout	ALL	⇔	⇔	<∺	⇔	<∺			
ooney Reservoir	Rainbow trout Walleye	ALL M			8	7	7	7		Hg
uhan Dand D. J.D. J. MUD	Due els tres st	WC	<∺	12	4	2	3	3		Hg
ulver Pond Red Rocks NWR rystal Lake Tobacco Root Mtns	Brook trout Cutthroat trout	ALL M		<> <	₹					
aller Lake	Vallauraanah	WC	8	7	7					Hg
ailey Lake	Yellow perch Walleye	ALL		<>>	<₩					
East Fork Reservoir Lewistown	Yellow perch	ALL	⇔	⇔		-0.4				
	Northern pike	M WC		₩ ₩	12	9				Hg
nnis Lake	Brown trout Rainbow trout	ALL	₩ ₩							
Flathead Lake	Lake trout	М		~41	₩	9	9	3	1	Hg/PCBs
	Lake whitefish	WC M	<##	∠ ∺	7 <≃∺	3 12	3	1	1	Hg/PCBs Hg
		wc	11	9	7	4				Hg
Flint Creek South of Drummond	Brown trout	M WC			6	6				Hg Hg
	Rainbow trout	М			11	11				Hg
	Mountain whitefish	WC M			8	8				Hg Hg
		wc			3	3				Hg
Fort Peck Reservoir	Walleye	WC		10 4	3	3	3 1			Hg Hg
	Northern pike	M				8	8	6	4	Hg
	Lake trout	M WC				3	9	6	3	Hg Hg
	Chinaak aak	WC					3	2	1	Hg
	Chinook salmon	M WC						5 2	5 2	Hg Hg
ed Burr Creek	Rainbow trout	M			4	4				Hg
South of Drummond enchman Reservoir (Malta)	Northern pike	WC ALL	<##	⇔	1	1				Hg
Fresno Reservoir Georgetown Lake	Walleye	M WC	<∺ 11	<∺ 7	10	3				Hg
	Brook trout	M	11	7	4 <≈	1				Hg
	Kokanaa calmaa	WC		11	∠ ∺	<>≈				Hg
Hauser Reservoir	Kokanee salmon Kokanee salmon	ALL M		<>>	<##	<∺				
	Rainhow trout	WC				6				Hg
	Rainbow trout Yellow perch	ALL			< ₩	<×				
	Walleye	M WC		<>∺ 10	<>∺ 10	<>∺ 6	<>≠ 6			Ц«
ebgen Reservoir	Brown Trout	M	< ₩	10	10	7	4			Hg Hg
	Rainbow Trout	WC M		6	4	2	1			Hg Hø
	Nambow Hout		424	_	4	3				Hg
		WC	7	6	4	3				Hg

Rainbow trout

Yellow perch

Species

Location

9

10

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6

8

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4 3

4

10

Size (Length in inches)

6-10 10-14 14-18 18-22 22-26 26-30

4

WC

М

WC

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WC

Person

Hg

Hg

Hg Hg

Contaminant

Control Control	0	Person				18-22	22 20			
Hyalite Lake S of Bozeman Island Lake SE of Libby	Cutthroat trout Yellow perch	ALL M	12	<## display="block" 1						Hg
Judith River Below Big Spring Cr.	Brown trout	WC ALL	5 ⇔							Hg
Lake Frances	Rainbow trout	ALL	€ ₩	<≃ 7	2	2				Пч
	Walleye	WC		3	3	3				Hg Hg
Lake Koocanusa	Burbot	M WC	12	12	11	11 4				Hg Hg
	Kokanee salmon	M WC	<≃≠ 9	<≃ 9	<∺ 10					Hg
	Rainbow trout	ALL	<¤	<₽						116
Lake Mary Ronan	Rainbow trout Kokanee salmon	ALL M		₩	< ⇔					
	Yellow perch	WC M	₩	12 11						Hg Hg
Leigh Lake Cabinet Mountains	Brook trout	WC M	11	4						Hg
Lower Stillwater Lake		wc	12							Hg
Lower Stillwater Lake	Yellow perch Northern pike	ALL M	₹		<₩	<₩				
Lump Gulch Prickly Pear Drainage	Brook trout	WC ALL	€ ₩		7	10				Hg
Madison River Hebgen Lake to Quake Lake	Rainbow trout	M WC		<≃ 6						
Madison River	Brown trout	М	€ ₩	⇔	⇔					
Quake Lake to Ennis Lake	Rainbow trout	WC ALL	₩ ₩	₩	9 ⇔					Hg
Madison River Below Ennis Lake	Brown trout	M WC		10	12 4					Hg Hg
	Rainbow trout	M WC	₩ ₩	<≃ 12	12					Hg
Martinsdale Reservoir	Brown trout	М	<¤	<##	₩	6	6	6		Hg/PCBs
	Rainbow trout	MC M	10 <≃	10 <≃	6 <≃	4	4	4		Hg/PCBs
Medicine Lake NWR	Northern pike	WC M	<∺	12	12	₩	<#	5		Hg Hg
		WC			9	8	8	2		Hg
Missouri River Headwaters to Toston	Brown trout	M WC		8						Hg
	Rainbow trout	M WC		<∺ 8						Hg
Mystic Lake South of Bozeman	Brook trout	ALL	€ %	€ #	← < < < < > < < < < < > < < < < < < < <					
	Cutthroat trout	M WC		8	8					Hg
	Lake trout	M WC					<∺ 7			Hg
Nelson Reservoir	Walleye	M		<≈	<>≈ 5	6	3			Hg
	Northern pike	М		ס	Э	<₩	<₩	11		Hg Hg
ŀ	Black crappie	WC M	€ ₩			7	7	4		Hg
	Lake whitefish	WC M	10	₹	₩	7	7			Hg Hg
	Lake whitefish	WC		<	5	3	3			нg Нg
	Yellow perch	M WC	<∺ 11	<≃≓ 10						Hg
Ninepipes NWR	Largemouth bass	M WC	<⇔	<## C	6	5				Hg
Noxon Reservoir	Walleye	М	1	6	5	5	1	444		Hg Hg
	Northern pike	WC M			2	8	8	4	2	Hg Hg
	Smallmouth bass	WC M		4		3	3	1	1	Hg Hg
		wc		1						Hg
	Lake whitefish	M WC		8	7	7				Hg
	Yellow perch	M WC	5							Hg Hg
Park Lake Southwest of Helena	Arctic grayling	ALL	<₩							TIG
Petrolia Reservoir	Cutthroat trout Northern pike	ALL M	C #	₹			<##			
South of Winnett Prickly Pear Creek	Brown trout	WC ALL	<## C ₩	<# display="block">			6			Hg
Above East Helena Seeley Lake	Rainbow trout Rainbow trout	ALL			← #	7				PCBs
	Mountain whitefish	М	<∺	⇔						
Silver Creek North of Helena	Cutthroat trout	MC M	8	12 4						Hg
Soda Butte Creek Cooke City	Brook trout	WC ALL	3 <≃∺	1 <>≒						Hg
South Sandstone Reservoir	Cutthroat trout Walleye	ALL M	⇔	⇔			2			Пч
North of Baker	walleye	WC					444			Hg Hg
	Northern pike	M WC			7	3	3			Hg Hg
	Yellow perch	M WC	11							Hg
Swan Lake	Kokanee salmon	М	<∺	<##	<##					Hg
	Bull trout	WC M	12	12	12 10	9	8	7	5	Hg Hg
	Northern pike	WC M		8	4	3	3	3	2	Hg Hg
		WC			6	3	3	2	2	Hg
	Lake trout	M WC	11	7	5	10	3	6 2	1	Hg Hg
Tenmile Creek West of Helena	Brown trout Rainbow trout	ALL								
Thompson Follo Person	Brook trout	ALL	€ ₩	₹						Ца
Thompson Falls Reservoir	Yellow perch	M WC	12 4							Hg Hg
	Northern pike	M WC				12 5	10 4	10 4	9	Hg Hg
Tiber Reservoir	Walleye	M	12	7	4	3				Hg
Tongue River Reservoir	Walleye	M M	4 <≃	3 <⇔	10	8	6			Hg Hg
	Northern pike	WC M	8 <≃	6 ⇔	4 <≃	3 ⇔	2 ⇔	← #		Hg
	Smallmouth bass	WC M	8	8	7	7	7	6		Hg
		wc	9	4						Hg Hg
	White crappie	M WC	11 4							Hg Hg
Upper Cold Lake Mission Mtns Upper Two Medicine Lake	Cutthroat trout Lake trout	ALL M		4						
Glacier National Park		wc			8					Hg
Waterton Lakes Glacier National Park	Lake trout	M WC		<∺ 7	12 4	8	1	1	1	Hg Hg
	Lake whitefish	М		₹	<∺	<∺	< ₩		<∺	Hg
Lakes west of Continental Divide	Lake trout	M M	<##	<>×	9	7 9	7 6	7 6	7 5	Hg Hg
Within Glacier National Park Lake McDonald	Lake whitefish	WC M			6 <≃	3 ⇔	2	2	2	Hg Hg
Within Glacier National Park		wc			8	8	0	^		Hg
St. Mary Lake Glacier National Park	Lake trout	M WC			9	9	9	3		Hg Hg
	Lake whitefish	M WC			8	<∺ 8				Hg Hg
	Burbot	М			11	11	6	6 2v		Hg
Whitefish Lake	Lake trout	M M			4	4	6	2x		Hg Hg
	Northern pike	WC M			8	7	2	8		Hg Hg
		WC						3		нg Нg
	Lake whitefish	M WC				7				Hg
			_	_						



ADDITIONAL INFORMATION

For information on the collection and laboratory testing of fish from Montana waters, call Montana Fish, Wildlife & Parks at (406) 444-2449. For additional information on consumption guidelines, call Montana Department of Public Health and Human Services at (406) 444-9777.

Additional copies of this guide can be obtained at all Montana FWP regional offices and outlets where fishing licenses are sold.

You can view an on-line version of this brochure, with updates to the data at: fwp.mt.gov/fishing





